

## Title (en)

Apparatus for restoring multi-channel audio signal using HE-AAC decoder and MPEG surround decoder

## Title (de)

Vorrichtung zur Wiederherstellung eines mehrkanaligen Audiosignals mit HE-AAC-Dekodierer und MPEG-Surround-Dekodierer

## Title (fr)

Appareil de restitution de signal audio à plusieurs canaux utilisant un décodeur HE-AAC et un décodeur stéréophonique MPEG

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## Application

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## Abstract (en)

Provided is a method for controlling synchronizing downmix signals and MPEG surround side information signals by controlling a delay according to the kind of downmix audio signals in an MPEG surround decoder. When multi-channel audio signals are restored using an HE-AAC decoder and a low-power MPEG surround decoder and complex QMF signals outputted from the HE-AAC decoder are used as downmix signals, a delay unit compensates for a delay caused in a real-to-complex converter. Another delay unit delays spatial parameters to compensate for a delay caused in QMF and Nyquist banks when time-domain downmix signals are used. Also, when multi-channel audio signals are restored using an HE-AAC decoder and a high-quality MPEG surround decoder and complex QMF signals outputted from the HE-AAC decoder are used as downmix signals, a delay unit compensates for a delay caused in a real-to-complex converter.

## IPC 8 full level

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- "Audio Engineering Society Convention Paper presented at the 115th Convention", ISO/IEC JTC1/SC29/WG11 N8177, STUDY ON TEXT OF ISO/IEC FCD 23003-1, MPEG SURROUND, 10 October 2003 (2003-10-10)
- AUDIO ENGINEERING SOCIETY CONVENTION PAPER PRESENTED AT THE 119TH CONVENTION, 7 October 2005 (2005-10-07)

## Citation (search report)

- [A] HERRE J ET AL: "THE REFERENCE MODEL ARCHITECTURE FOR MPEG SPATIAL AUDIO CODING", AUDIO ENGINEERING SOCIETY CONVENTION PAPER, NEW YORK, NY, US, 28 May 2005 (2005-05-28), pages 1 - 13, XP009059973
- [A] WOLTERS M ET AL: "A CLOSER LOOK INTO MPEG-4 HIGH EFFICIENCY AAC", PREPRINTS OF PAPERS PRESENTED AT THE AES CONVENTION, XX, XX, vol. 115, 10 October 2003 (2003-10-10), XP008063876
- [A] PURNHAGEN H: "Low complexity parametric stereo coding in mpeg-4", PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON DIGITAL AUDIOEFFECTS, XX, XX, 5 October 2004 (2004-10-05), pages 163 - 168, XP002364489

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